User's Manual

Bestic 1.0 - Eating Assistive Device

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1. Introduction

1.1 Intended use

Bestic is an eating assistive device intended for use by persons that has a reduced functionality in their arms or hands. The user controls the device via different control switches.

Bestic is intended to use as a daily support during mealtimes.

Bestic is not intended for use in hospitals.

It is intended to be placed steadily on a flat surface, e.g. on a table while in use.

Bestic can be used by both adults and children but it is not intended to be used as a toy.

1.2 Bestic philosophy

Bestic is designed for use by persons with involuntary arm movements or weak finger force. Bestic is controlled by the user who chooses which piece of food is lifted to the mouth and when. Since every individual has different assistive needs, it is possible to connect Bestic to different control switches. Handling the control switches does not require much effort.

The idea is that eating should be made possible with the least amount of effort, the user deciding on what type of food and when it shall be eaten. Bestic waits for your instructions and does not move until you decide to give the next command.

1.3 Contact

Bestic is a Class I/CE-marked medical device, manufactured by Bestic AB, Stockholm, Sweden. For local contact persons and service, please see our website (www.bestic.se) for the right contact information in your country.

2. Safety

It is important to read this chapter thoroughly and to understand it, before starting to use Bestic.

2.1 Information about the warning-sign

This picture indicates a warning. If it's shown next to a text, it means that there is a risk of injuries for a person, or a risk of damage to Bestic if the information is neglected.

2.2 Declaration of responsibilities

Bestic AB takes no responsibility for damages caused by incorrect use.

Only persons who have been informed and instructed on its use should operate the eating device. It must be operated according to the instructions in this User's Manual.

Bestic AB has the right to change specifications on Bestic without notification.

2.3 Warnings

Be aware of the following risks that could damage the surroundings or the device:

1. Make sure that you understand all the instructions and warnings before you connect and start using Bestic.
2. Do not use Bestic if you have problems swallowing or to lean forward and cough. Keep in mind the risk of choking when eating alone.
3. Only use Bestic in a home-environment, and not in a hospital environment.
4. Do not dismantle any screws from Bestic. Do not try to open it in any way.
5. Never pour liquids over Bestic or immerse into liquids.
6. Never hold the power-cable, or any contact, with wet hands.

7. Place Bestic on a flat and steady surface. Make sure Bestic stands steadily without risk of falling.

8. Attach the power-adaptor only to the voltage it is made for (100V-240V, 50Hz-60Hz).

9. Attach only the supplied power-adaptor to Bestic. Never modify the power-adaptor yourself.

10. Take hold of the plug when disconnecting from an electrical outlet, do not pull the cable.

11. Be aware of the risks for squeezing. When the arm is moving, the risk areas occur near the joints.

12. Should Bestic start to smell strange or unusual sounds would appear – shut Bestic down immediately and disconnect the power. Contact Service.

13. Make sure the temperature around Bestic does not exceed +40 degrees Celsius. Do not leave Bestic in the sunlight or in a trunk of a car on a sunny day.

14. Should the function of Bestic change in any way or behave unexpectedly, contact your Service Contacts.

15. Do not put fragile objects close to Bestic as they might be tipped or damaged by the movements of the arm. Be extra careful with candles.

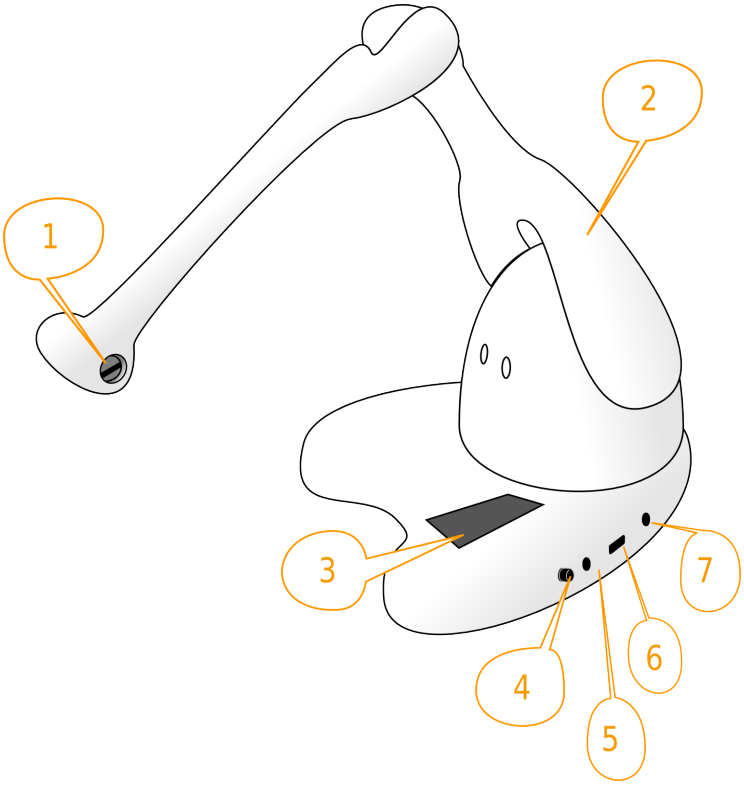
16. Never put Bestic in the dishwasher.

17. Do not transport Bestic in a bag with wheels, the trembling that occurs might damage it.

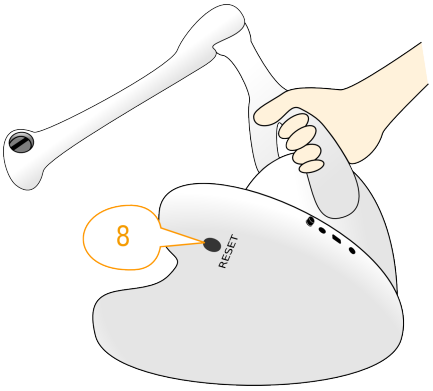
3. Product overview

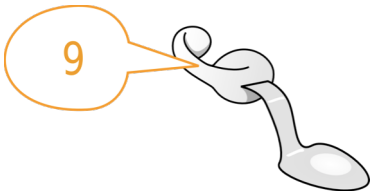
3.1 Description

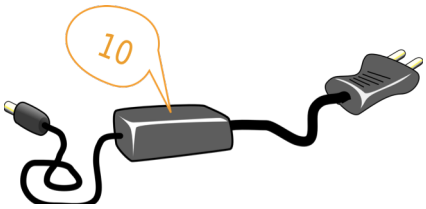
Overview of Bestic, system parts:



1. Spoon holder
2. Carrying handle
3. Menu window
4. On/Off button
5. Phone plug (connection port)
6. USB (connection port)
7. Charging connector for power cord
8. Reset button
9. Spoon
10. Power cord



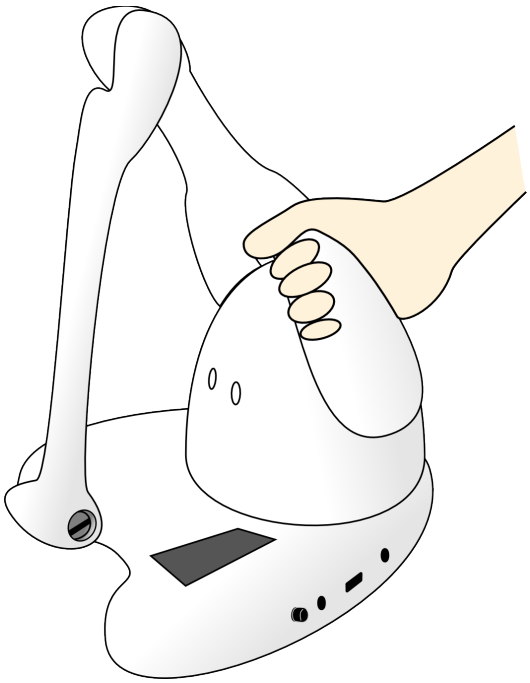




4. Handling

4.1 Lifting Bestic

When lifting Bestic, use the built-in handle in the lower, thicker part of the arm, see picture.



Do not lift Bestic with the thin upper part of the arm.

Only lift Bestic when it is turned off and in shipping-position.

4.2 Connecting a control switch

Bestic can only be connected to *approved* and *validated* control switches. If the device is connected with a control device that has not been validated there is a risk of electrical disturbance or damages.

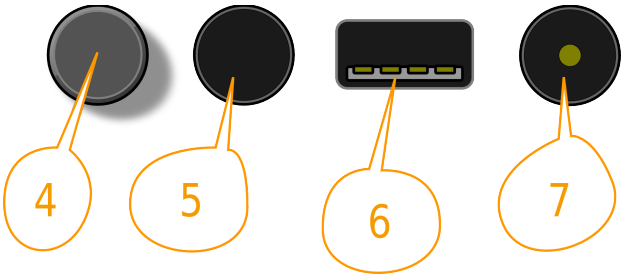
A complete and updated list is available on our website www.bestic.se.

There are two types of connectors for control devices on Bestic:

A. USB

B. Phone plug

The connector depends on which control switch you are using. Available connectors on the side of Bestic:

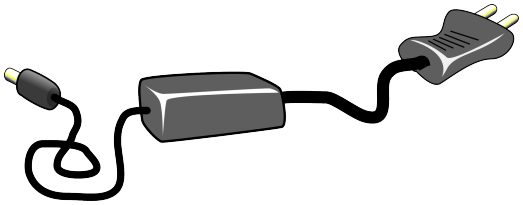


4. On/Off button
5. Phone plug (connection port)
6. USB (connection port)
7. Charging connector for power cord

4.3 Charging

Bestic contains a battery that needs to be charged. If Bestic does not start or if the display tells you to charge, connect the power-adaptor.

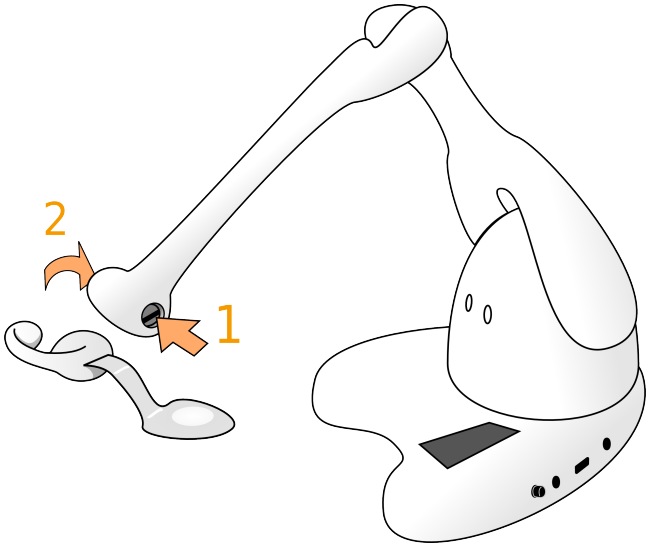
Connection and disconnection of the power-adaptor can be done at any time.

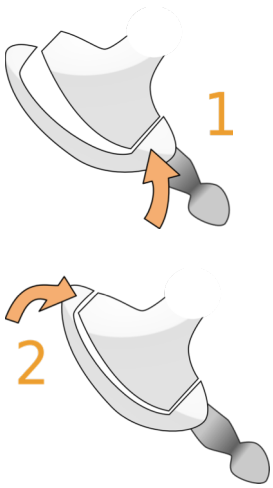


When the power-adaptor is connected the battery is automatically charged. The time to charge a completely empty battery is app. 3 hours. If you are operating the device during charging, it may take a longer time before it is fully charged.

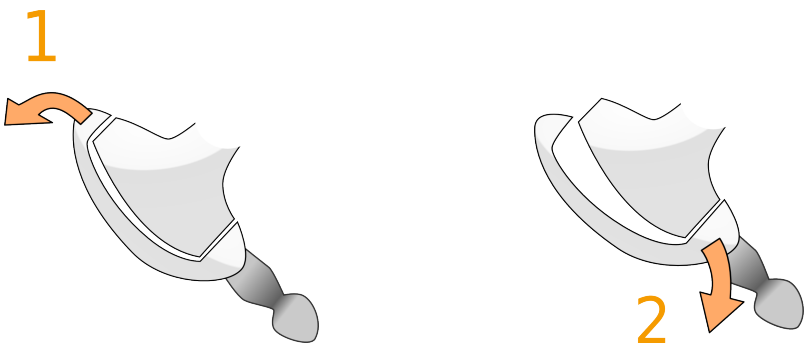
4.4 To mount and dismantle the spoon

Mounting the spoon: Attach the spoon by aiming the end of the spoon into the fissure and snap onto the rear part of the spoon-holder.



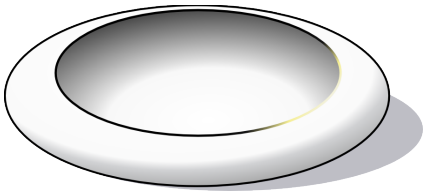


Dismantle the spoon by first lifting the rear part of the spoon-holder up and towards the side.



4.4 The plate

Use the plate that is supplied together with Bestic in order to ensure a good eating assistive functionality. This plate has been carefully selected due to the edge which facilitates scooping of the food. The diameter of the plate also corresponds with the arm movements of Bestic.



5. How to eat with Bestic

Before starting use – make sure you have read and understood all the warnings in chapter 2. Safety. You should also have read chapter 4. Handling.

The settings are done through a menu system when the user starts Bestic. There are two menus in Bestic:

a) User menu. The user menu is intended for settings done by the user. This is the menu presented when starting Bestic.

b) Advanced menu. This menu is intended for installation or service and is described in the service manual.

5.1 Start

1. Make sure that Bestic is placed on a flat, steady surface.

2. Place Bestic close to the plate, so that the device touches the plate.

3. Mount the spoon.

4. Connect your control device.

5. To start press the black button on the side of Bestic.

5.2 Settings done by the user

The display menu has two rows. The upper row of the display often shows a claim or question. The lower row displays alternative answers.

First menu choice

Renew settings? Yes / No

If the user wishes to change the preset settings, choose "**Yes**" by clicking forward on the control device.

If the user does not wish to renew settings, but rather wishes to start eating immediately, choose "**No**".

Second menu choice

The first step in customizing the settings of Bestic is to choose what kind of food you want to eat.

Food type? Pieces / Soup

"Pieces" refers to any kind of food that can be divided into pieces in suitable size for scooping by a spoon.

"Soup" can be any kind of a more fluid food, like yoghurt, creamy deserts or soups. When selecting "**Soup"**, the scooping movement of the arm is different compared to when using "**Pieces**" and adapts to reducing spilling, by wiping off the bottom of the spoon before moving up to the level of the mouth.

Third menu choice

Adapt the spoon so as to make eating comfortable and easy.

Mouth height? XX (in centimeters)

Set the height from the plate to the mouth in centimeters. Go stepwise up and down from the pre-configured settings until you have reached a comfortable height.

Spoon towards mouth? XX (in centimeters)

How close to the mouth would you like the spoon to go? Set the appropriate distance so that taking the food from the spoon is easy.

The spoon will now go the set position.

Are these the right settings you need? Bestic will ask you:

Mouth height OK? OK / No

If you need to adapt the settings again, press No. Repeat this procedure until the right height and distance have been set. Then press **OK**.

Enjoy your meal

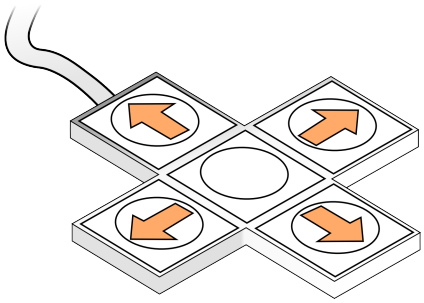
Bestic drives to the starting position

After the settings are made, Bestic is ready to be used and moves to the starting position by the mouth.

5.3 Using Bestic

Bestic does not move unless instructed to do so by the user via the control switch. For information on how to use your control switch, please see ***the specific instructions for your choice of control switch.***

Most commonly the control devices have five buttons for multifunctional maneuvers. **EXAMPLE** the STAR control switch:



Use the device with the cable pointing upwards and towards the plate. Choose which side of the plate you wish to pick your food from – *right or left* – by giving the *corresponding directional command*.

The spoon goes down to the plate facing the chosen side.

The spoon can be controlled in any direction on the plate by using the *directional commands (away, towards, right* or *left signal.).*

When the chosen piece of food is on the spoon (or between the spoon and the edge of the plate) *confirmation signal* shall be given.

The spoon is turned to a horizontal position and then collects the food onto the spoon.

The spoon stops, waits and then gently shakes to make sure the spoon is not too full. This is done in order to minimize spilling. If you have selected soup, the spoon backs towards the far end of the plate and wipes of drops from under the spoon.

The spoon then moves up to the mouth position where you can take the food.

After taking the piece of food, continue with the next mouthful by repeating the steps above.

5.4 Turn off

Press the button on the side of Bestic until the display is lit with the text “Bestic moves to shipping position”. When releasing the button Bestic starts to move.

Bestic turns off automatically after not being used for about 20 minutes but without moving the arm. Bestic stays then in the last position it was used in.

5.5 Emergency stop

Turning off of Bestic is done as normal for emergency stop.

5.6 Reset

If Bestic does not react on command or reacts strangely in any way, a “Reset” might help. Press the reset button on the bottom side of Bestic with a pen through the hole by the text “Reset”.

6. Care instructions

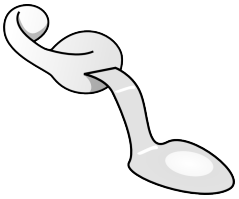
How to take care of Bestic.

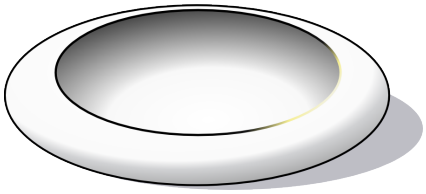
6.1 Cleaning

Make sure that Bestic is turned off.

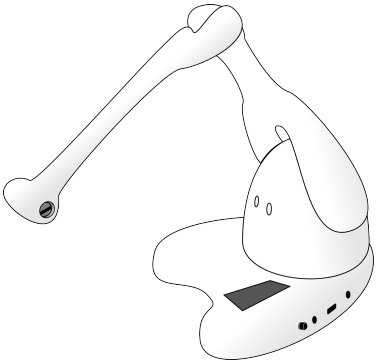
Disconnect the power-adapter and control switch.

The spoon with the holder and the plate can be washed by hand or in a dishwasher.





Cleaning of the main unit, power-adapter and control device is done with a ***moist cloth with dishwashing liquid for manual washing-up***. Do not use strong detergents, spirit, solvents or abrasive detergents. When needed, a soft brush may be used.



7. Transport and storage

7.1 Packing for transportation

When the unit is being transported, make sure it is turned off in the shipping position. In the shipping position it is folded and compact which is suitable for transportation.

Do not place Bestic in a bag on wheels. Shaking and vibrations may occur that could damage the unit on the inside.

Preferably use the dedicated backpacks or flight case when transporting Bestic. Try to avoid pressure or shaking. The arm in particular is sensitive for enduring inappropriate pressures.

7.2 Storage

For maintenance reasons, the battery in Bestic needs to be charged at least once per year during 3 hours, otherwise the battery might be damaged. Store the unit in a standing-up position on a flat surface.

8. Troubleshooting

1) Should Bestic stop and the display say “Contact Service, do not start Bestic again” a serious failure has occurred and Bestic will not work as intended. Contact your service contacts for support.

2) Should Bestic stop and the display say “Press OK, starts Bestic” press the confirmation button.